

Function → Each element of the domain is paired with exactly one element of range

Name: _____ Date: _____ Block: _____

Test 1/23/17

Algebra I Honors Unit 4-5 Study Guide

~~Key~~

Directions: For each question, state the domain and range of the relation. Then, determine whether or not the relation is a function.

1. $(5, -2), (3, -5), (2, -5), (0, -2), (-1, -3)$

Domain: (x values)

$5, 3, 2, 0, -1$

Range: $-2, -5, -3$

y values

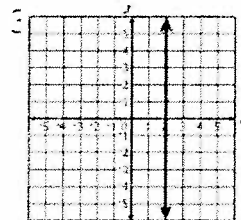
Function? yes

2. Circle each relation that is a function.

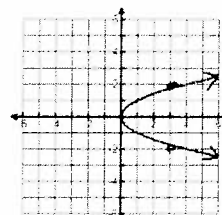
$(-3, 3), (5, 5), (3, 2), (-5, 2)$

Domain	Range
-3	3
5	4
2	5
-5	6

NO



NO $x=2$



NO

Directions: Place the ordered pairs in the boxes provided.

3. Using the ordered pairs shown, create a relation with domain of $\{-3, 4, 7\}$.

x values

$\{(-3, -1), (4, 0), (7, 2)\}$

Domain $\{-3, 4, 7\}$

Range $\{-1, 0, 2\}$

$(-3, -1)$	$(-1, -3)$
$(0, 4)$	$(4, 0)$
$(2, 7)$	$(7, 2)$

Directions: Evaluate.

4. Find $f(-4)$ if

$$f(x) = x^2 + 2x - 1$$

$$\begin{aligned} f(x) &= (-4)^2 + 2(-4) - 1 \\ &= 16 - 8 - 1 \\ &= 8 - 1 \\ &= 7 \end{aligned}$$

$x = -4$

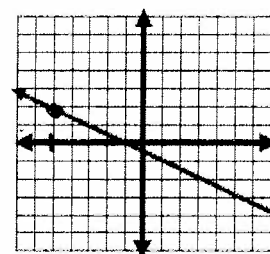
5. If $f(x) = -3x + 4$, state the range if the domain is $\{-1, 0, 2, 5\}$.

x	y
-1	7
0	4
2	-2
5	-11

$$y = -3x + 4$$

Range $\{7, 4, -2, -11\}$

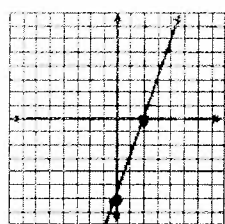
6. What is $f(-5)$? If $x = -5$



$y = 2$
 $f(-5) = 2$

Directions: Using the graph or equation of the function provided, find the indicated values.

7. Given the graph of $f(x) = 3x - 6$



$$y = 3x - 6$$

x-int $(2, 0)$
y-int $(0, -6)$

x-intercept: 2
y-intercept: -6

8. What are the x- and y-intercepts of

$$3x + 5y = -15$$

x	y
0	-3
-5	0

x-intercept: -5
y-intercept: -3

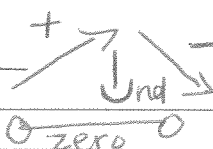
9. What is the slope of the line represented in this equation?

$$4x + 5y = -6$$

$$\begin{aligned} 5y &= -4x - 6 \\ \frac{5y}{5} &= \frac{-4x}{5} - \frac{6}{5} \end{aligned}$$

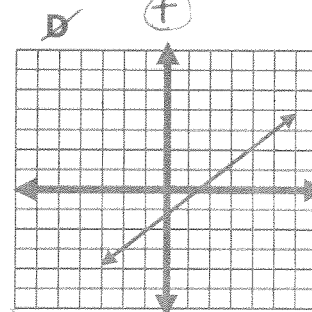
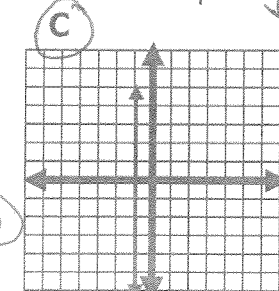
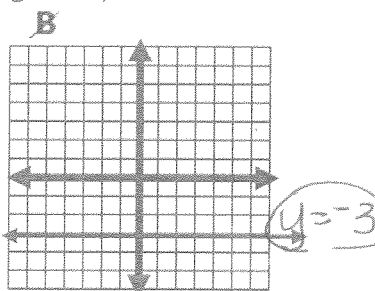
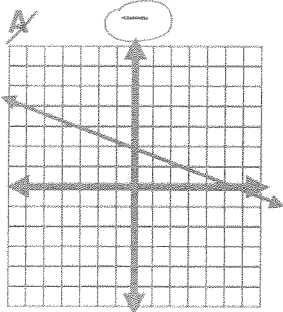
$$y = -\frac{4}{5}x - \frac{6}{5}$$

$m = -\frac{4}{5}$



Directions: Circle the best answer.

10. Given the following lines, which one has an undefined slope?

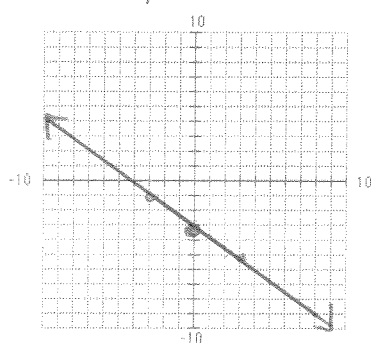


zero slope
Hoy
Horizontal line

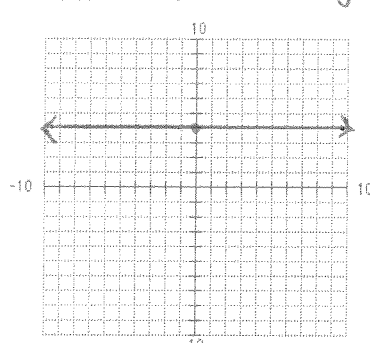
VUX Vertical Line
Undefined slope
 $x = -1$

Graph the given line

11. $Y = -2/3x - 3$

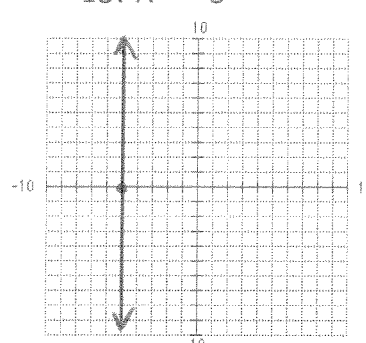


0 slope
 $y =$ 12. $Y = 4$



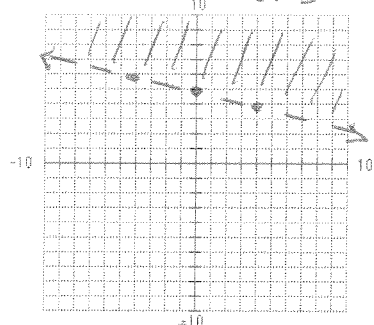
Hoy

13. $X = -5$ VUX

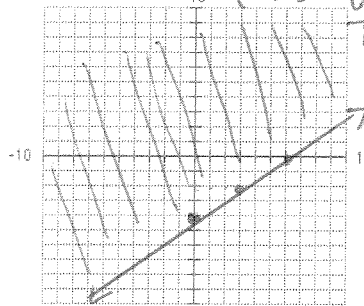


Graph the inequality

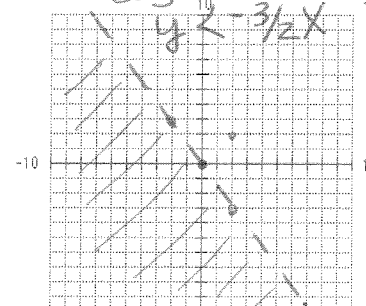
14. $y > -1/4x + 5$
 $(0,0)$
 $0 > 5$ False



15. $2x - 3y \leq 12$
 $-2x$ $-2x$
 $y \geq \frac{2}{3}x - 4$
 $(0,0)$ $0 \geq -4$ True



16. $3x + 2y < 0$
 $-3x$ $-3x$
 $2y < -3x$
 $y < -3/2x$
Try (2,2)
 $2 < -3$ False



Vocabulary

Function - No repeating x values
Domain - x values
Range - y values

VUX - Vertical Undefined m
 $x = -$
Hoy - Horizontal
0 slope
 $y = -$

x-intercept $(-, 0)$
y-intercept $(0, -)$

Formula's
Standard Form
 $Ax + By = C$

Slope Intercept
 $y = mx + b$